memorandum

Idaho Operations Office

Date: September 6, 2001

Subject: National Spent Nuclear Fuel Program (NSNFP) June 26-27, 2001 Strategy Meeting (EM-NP-

01-030)

To: Distribution

The semi-annual NSNFP Strategy meeting was held at University Place in Idaho Falls, ID on June 26-27, 2001. This meeting is held twice a year to update the participants on the status of the proposed Yucca Mountain Repository; to identify issues relative to preparing the DOE-owned spent nuclear fuel for repository disposal; to share knowledge and experience; and to strengthen communication between the organizations and sites involved in the geologic disposal of DOE SNF.

The meeting was very informative and successful due to the attendance and participation of so many people. The meeting agenda, action items, issues and summaries of the discussions are attached.

The next NSNFP Strategy meeting will be held in Augusta, GA at the Sheraton Hotel. Further information will be provided to you shortly.

If you have any questions, comments, or additional issues please contact me at 208-526-1510 or arenazmr@id.doe.gov.

/s/

Mark R. Arenaz, Manager National Spent Nuclear Fuel Program

Attachment

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RECORD NOTES:

- 1. This memo was prepared to transmit the minutes of the NSNFP semi-annual Strategy meeting held in Idaho Falls.
- 2. This memo was prepared by Mark Arenaz.
- 3. This letter/memo closes OATS number N/A
- 4. The attached correspondence has no relation to the Naval Nuclear Propulsion Program.

NATIONAL SPENT NUCLEAR FUEL PROGRAM (NSNFP) STRATEGY MEETING

JUNE 26-27, 2001

Lori Braase

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NATIONAL SPENT NUCLEAR FUEL PROGRAM STRATEGY MEETING JUNE 26-27, 2001 UNIVERSITY PLACE, IDAHO FALLS, IDAHO

AGENDA

Tuesd	ay, June 26	
8:00	Introductions	Mark Arenaz
8:05	Welcome	Jerry Lyle
8:10	National Spent Nuclear Fuel Program Direction	Mark Arenaz/Andrew Griffith
8:40	Site Issues, Activities, Strategies	Walk Alchazi Alalow Cililli
0.40	8:40 Hanford	Mark French
	8:55 SRS	Ray Conatser/Randy Ponik
	9:20 INEEL	Pete Dirkmaat
	9:50 ORNL	David Adler
	10:05 ANL	Robert Benedict
10:30	Break	Robolt Bollodiot
10:45	NSNFP FY 02 Workscope and Risk	Phil Wheatley
	Repository Safety Case for DOE SNF	· ····· · · · · · · · · · · · · · · ·
	Repository Analysis	
	Materials Analysis	
	Transportation	
11:35	YMSCO Workscope to Support DOE SNF	David Rhodes
12:00	HLW Issues	Denis Koutsandreas
12:30	Lunch	
1:45	DOE SNF Steering Committee Meeting	
1:30	Contractor Breakout Session	
3:00	Break	
3:15	Report on SNF Steering Committee Mtg.	Andrew Griffith
3:30	Report on Contractor Breakout Session	Phil Wheatley
3:45	Breakout Session	Mark Arenaz
	 – EM Transportation System Requirements 	
5:15	Adjourn	
6:30	Idaho Dutch Oven Dinner	
Wedne	esday, June 27	
8:00	Opening Remarks and Report on Transportation	
0.00	Breakout Session	Mark Arenaz
8:20	YM SR and LA and Future NRC Meeting	Paul Harrington
9:10	Safeguards & Security Strategy	Bill Hurt
9:25	Review of NSNFP Work Supporting Licensing	<u> </u>
	9:25 TSPA	Jim Duguid
	10:15 DBE	Dick Morrisette
10:30	Break	
	10:45 Criticality	Halim Alsaed
11:10	Nuclear Materials Focus Area/Technology Development	Phil Wheatley
11:35	Lunch	,
1:00	NSNFP QA Changes	Bob Blyth
1:25	Interface Control Document	David Rhodes
1:40	Integrated Repository Receipts Schedule	Corey Beebe
2:00	DOE SNF Standardized Canister & High Integrity Can	Tom Hill
2:20	INEEL Dry Storage Project	Barbara Beller
2:45	Action Items and Next Meeting	Mark Arenaz
3:15	Adjourn	
	-	

SCHEDULE

October 16-17, 2001 NSNFP Strategy meeting

(tentative) Augusta, GA (SRS) in conjunction with the HLW meeting

October 22, 2001 NRC LWR Program meeting (fuel storage/high burnup)

Bethesda, MD

September 16, 2002 Fifth Bi-annual DOE SNF Fissile Material Disposition

Meeting - Charleston, NC

ACTION ITEMS

#	Action Item	Designee	Due Date
1	E-mail presentations to Lori Braase (bse@inel.gov).	Presenters	7/05/01
2	Schedule a presentation at the next NSNFP Strategy Meeting to cover the Information Management System and how it all comes together.	NSNFP/ Paul Harrington	Prior to October 2001
3	Provide the Analysis Model Report on degradation of the HLW glass to Dennis Koutsandreas	Paul Harrington	7/13/01
4	Provide Jim Smyder and Ed Fujita a copy of the AMR for FFTF (7/20/01, Phase III) for review.	Halim Alsaed	7/13/01
5	Work with Joe Price and David Rhodes on the distribution for the next ICD revision.	Jim Linhart	Complete 6/28/01
6	Provide a copy of the design package on the HIC to Jim Smyder.	NSNFP/ Tom Hill	7/13/01
7	Evaluate TMI SNF relative to the other DOE-SNF types.	NSNFP	

ISSUES

- Are we at risk leaving TMI fuel out of the repository License Application?
 - RW would like all 9 fuel categories included.

NSNFP ACRONYMS

AMR Analysis Model Report

ANL Argonne National Laboratory
ANA Advanced Neutron Absorber

ASME American Society of Mechanical Engineers
ASTM American Society for Testing and Materials

BOL Beginning of Life

CFR Code of Federal Regulation

CVDF Cold Vacuum Drying Facility (Hanford)

DBE Design Basis Event

DNFSB Defense Nuclear Facility Safety Board

DOE Department of Energy DWP Detailed Work Plans

EIS Environmental Impact Statement
EPRI Electric Power Research Institute
EUSC End User Steering Committee
GOTH Generation of Thermal Hydraulics
HFEF Hot Fuel Examination Facility (ANL)

HIC High Integrity Can

HIP Hot Isostatic Press (ANL)

HLW High Level Waste HQ DOE Headquarters

INEEL Idaho National Engineering and Environmental Laboratory

INTEC Idaho Nuclear Technology and Engineering Center

IPABS Integrated Planning, Accountability, and Budgeting System

IRRS Integrated Repository Receipt Schedule

LA License Application for the repository at Yucca Mountain

LEF L-Area Experimental Facility (SRS)
LWBR Light Water Breeder Reactor

MCO Multi-Canister Overpack

MEDEC Melt Drain Evaporate Carbonate (ANL)

MGR Mined Geologic Repository
NMFA Nuclear Materials Focus Area
MOA memorandum of agreement
NRC Nuclear Regulatory Commission

OCRWM (RW) Office of Radioactive Waste Management

ORNL Oak Ridge National Laboratory

ORP Office of River Protection (DOE Hanford)

PEG Program Execution guidance
PIE Post Irradiation Examination

PNNL Pacific Northwest National Laboratory

QARD Quality Assurance Requirements Document

SMS Shielded Measurement System

SNF Spent Nuclear Fuel

SNL Sandia National Laboratory

SR Site Recommendation (Yucca Mountain)

SRS Savannah River Site

STCG Site Technology Coordinating Group

TAG Technical Advisory Group

TBD to be determined

TSF Transfer Storage Facility (SRS)

WASRD Waste Acceptance System Requirements Document

WIPP Waste Isolation Pilot Plant

NSNFP STRATEGY MEETING SUMMARY

June 26-27, 2001

The following presentations are available electronically on the NSNFP WEB page at http://nsnfp.inel.gov. The information below represents discussion highlights or questions raised during the presentations.

SNF Site Issues, Activities, Strategies - Hanford

Mark French

- K-Basin Fuel Removal Activities
 - Hanford is currently process one MCO a week.
 - Twenty-five MCOs should be processed by the end of FY-01.
 - The plan is to process 16 MCOs a month beginning in January 2002.
 - A QA audit is scheduled for July 2001.
- Issues and Concerns
 - · Disposition of lightly irradiated SNF.
 - Sodium bonded fuel transfer schedule.
 - FY-02 NSNFP Support.
- Q: Can you share some lessons learned from you experience at WIPP?
- A: Avoid compliance with non-regulatory and/or stakeholder agreements that are not of real value to SNF long-term storage (e.g. headspace sampling example). Try to agree to do only what is necessary to meet the regulations and licensing.
- In addition, communication is key. The repository needs to understand the impacts of their requirements to site operations.

SNF Site Issues, Activities, Strategies - SRS

Ray Conatser/Randy Ponte

- Issues and Concerns
 - Budget uncertainty impacts.
 - Melt and Dilute demonstration/LEF Project
 - Timely certification of FRR transportation equipment.
 - No funding for material sensitivity testing and release rate testing for 2002.
- There is a real benefit for the visibility the NSNFP provides as License Application activities increase.
 - The sites need to continue to support the NSNFP.
 - More visibility is needed at the site management level.
- SRS could use some help from the NSNFP with management of HEU.

- L-Area Experimental Facility (LEF) has received funding for 2002, but work scope for 2003 is unfunded. This would delay the production facility for another year.
- Q: Is the hot cell in a containment area in the L-Area?
- A: No. The LEF furnace is in a containment box approximately 4 feet square. The top half of the box is removed to access the ingots and SNF. Filtered air is pulled by a negative pressure system. There are two zeolite filers to capture cesium.
- Q: How will the LEF ingots be stored?
- A: Some of it will go to the SRTC for testing. The remaining material will be stored in instrumented casks in the L-area dry cave. They will be monitored and analyzed for input to repository and interim storage performance.
- Q: What size are the ingots?
- A: They are about 6-8" in diameter out of the LEF. They will be about 18" in diameter from the production facility.
- Q: Can the containment box be decontaminated remotely?
- A: There is negative pressure in the box to minimize contamination. However, the containment box can be addressed remotely.

SNF Site Issues, Activities, Strategies – INEEL

Pete Dirkmaat

- TMI Storage Modules at INTEC
 - One of the key lessons learned is to design the concrete storage modules back to back. It is difficult to maneuver between the two sets of modules.
 - They are vented containments with natural circulation.
 - There is a port in the back of each module to sample and purge.
 - Sampling to determine the hydrogen generation rate will be done for the next 5 to 10 years. Based on the sampling results, the canisters could be sealed and ready for shipment to Yucca Mountain.
 - Under the NRC, there is no requirement to monitor the temperature or the radiation levels.
 - Environmental TLDs were placed on the fence around the storage modules for INEEL purposes and not to meet NRC requirements.
- Foster Wheeler Contract
 - There will be a \$67 million dollar payment after NRC design review and approval.

- The contract covers three SNF types, but it could be expanded to include more.
 - Shippingport
 - Peach Bottom
 - TRIGA
- They will use the standard canister developed by the NSNFP.
- Closure welds will be done remotely in the transfer area. There is a shield plug that will be placed in the canister below the weld.
- The facility should have the capacity to handle the largest cask in the DOE facility.
- HLW packaging is also planned for this facility.
- West Valley SNF is ready for shipment to the INEEL, but the railroad is requesting additional insurance to transport the casks.
 - Idaho and West Valley are in negotiations with the railroads, but it may not be settled until September 2001.
- Q: Is there a potential to use the GTI Assay System at Yucca Mountain?
- A: It is a portable system that can be easily transported. Its main purpose is to check measurement of FRR fuel at the shipping site. It measures enrichment (TRIGA SNF). It could be a backup system to MDAS.
 - Foster Wheeler has a 20-foot square space in the hot cell facility for the MDAS.
- Q: What will happen to the TMI drying system?
- A: The TMI drying system is available for use within the complex. Also available is the TMI weld machine.
- Q: What is the total cost of the GTI system?
- A: This is the fourth year and the costs are about \$500,000 total. It will cost about \$200,000 a year for deployments.

SNF Site Issues, Activities, Strategies – ORNL

David Adler

- Q: Who are the regulators that you have to interface with? (Regarding the OR SNF shipments to the INEEL.)
- A: NRC regulates the shipping and the State of Tennessee set the milestones. There are also negotiations between Idaho and Tennessee.
- Q: What was the purpose for the CofC addendum on the Fort Saint Vrain cask?
- A: The cask was upgraded and will transport a double containment basket. The cask will transport intact Peach Bottom, as well as smaller canisters loaded with LWR SNF and hot core scrap.

- Q: How long will it take to amend the CofC?
- A: It was submitted in November 2000. The RAI was received the first week in April and was returned June 18, 2001. The CofC is expected in September 2001.
 - Trans Nuclear prepared the CofC with Oak Ridge review.

SNF Site Issues, Activities, Strategies – ANL

Robert Benedict

- Q: Do you melt the cladding hulls?
- A: No, they are separated out from the EMT product.
- Q: How will the ingots be stored?
- A: They will go into the standard canisters and stored at RWS?
- Q: Is this a RCRA permitted facility?
- A: Yes
- Q: How do you treat the sodium?
- A: It is treated in a controlled reaction using dry carbon dioxide gas.
- Q: Can you ensure your repository waste is not RCRA?
- A: Yes. It is not RCRA based on a National Academy of Science review.

NSNFP FY-02 Workscope and Risk

Phil Wheatley

- Q: Since there is no funding for TMI criticality analysis, was there any criticality analysis done on the INEEL TMI SNF that would apply to commercial origin?
- A: There was some criticality analysis done and there may be some similarity.
- Q: Can you look at what RW is doing for commercial SNF to help with the TMI criticality analysis?
- A: This could be done in the out-years. There are no plans to fund this analysis now.
- Q: Could the reduced work scope due to lower budgets have some impacts on transporting Hanford MCOs to Yucca Mountain?
- A: Yes, it could.

- Q: RW needs to take graphite fuels and FSV paid fees into the fund; therefore RW should help pay for graphite fuel tests. Is there opportunity for discussion with RW?
- A: This is one of the actions and is being worked with RW.
- Q: Have you written any risk statement position papers to outline the magnitude of this risk?
- A: One to two paragraph risk statements have been written for DOE-HQ.
- Q: What is the function of the neutron absorbers?
- A: Criticality studies/calculations for fuels show they require neutron absorbers that remain with the fuel. For degraded homogeneous situations, poisons must remain with the fuel to maintain control. The interest was in filler and structural material, such as nickel based metals (C22 and C4). The goal is to take the nickel alloy through ASTM to make it a standard.
- Q: Are the activities you referred to as "eliminated" really deferred?
- A: The graphite studies are probably eliminated if we are unable to study the samples obtained from Oak Ridge. The Cs/Rb studies can be delayed. The peer review on the fracture of a canister can be deferred.
- Q: Are we at risk of leaving the TMI fuel out of the repository License Application?
- A: RW would like to get everything in the LA if possible.
- Q: Is the MDAS in jeopardy?
- A: There is no NSNFP funding for it for next year.
- Q: Would the Integrated Repository Receipt Schedule stay with the NSNFP if the transportation program were transferred to RW?
- A: Yes. The NSNFP and the Transportation Program have merged.
- Q: Is the EM goal to have a SNF package ready for transfer to Yucca Mountain by 2010?
- A: Yes, this is EM and RW's goal.
- Q: What is the High Integrity Can (HIC)?
- A: With the help of the NMFA, it is in process now and will be deployed by the end of the year. It is made from a nickel alloy material.
- Q: Who controls funding for the NSNFP?
- A: DOE-HQ influences how much funding is provided from the Idaho budget, but the DOE-ID and INEEL contractor controls the funding in the final analysis.

YMSCO Workscope to Support DOE SNF

David Rhodes

- The deferred FY-2001 criticality analysis and the geochemistry personnel short fall impacts not getting the TMI tests done.
- Issue: The TMI fuel (9th fuel group) may be a "tough spot" with the NRC. YMSCO may have funding to help with the TMI degradation testing; however, they will wait action until the NSNFP completes their white paper.
- The TSPA revision 1 will include the 8 fuel groups.
- Issue: Something needs to be done by 2003 on the MCO drop analysis. The
 current drop analysis data is 18 inches for the MCO. This significantly impacts
 the transportation system and possibly the surface facility design.
- Q: How do you establish those conditions?
- A: This is information needed after transport outside of the waste package. It is a back pocket analysis just in case NRC wants the information. These are not licensing calculations.
- Q: Are they just needed on the 9 representative fuel types (bounding fuels)?
- A: Still have to show fuels fall within the analyzed bounds. The sites will need to do analysis to show the fuels fall into one of the 9 bounding fuel groups.
- Q: Who does the analysis, Yucca mountain or the sites?
- A: The facility shipper (sites) will do the analysis for every fuel type they send. The user needs to demonstrate compliance with the safety envelop.
 - Stay within the fissile limits for criticality analysis.
 - This should not amount to extensive work.
 - Use the 9 representative fuels as the basis for the analysis.
 - This is a post-LA activity.
 - About two years prior to shipping, the sites should do their analysis.
- Q: What were NRC concerns related to QA controls for calculations.
- A: NRC was concerned about Control Point 1 for software.
 - The change control documentation was late.
 - Software development is not allowed to continue until they show compliance.

Denis Koutsandreas

- Issue: The HLW ROD at INEEL is still pending approval. It will impact the number of canisters going to the repository from 2000 up to 10,000.
 - There are RCRA concerns at the INEEL.
- Q: Is Hanford looking at a larger pour can (HLW glass)? Won't this reduce codisposal?
- A: Hanford is only looking at their options and they will get a larger group together to look at the impacts
- Issue: What is the General Council's interpretation of HLW glass contents?
 - Impacts to the WASRD?
 - WASRD, Revision 04, Ha, Section 4.2.1.1, Canister fill material.
 - This is not in writing and Mark Frei wants this resolved.
- Issue: WASRD Section 4.2.12, Tamper Indication Device
 - Why would we need to put a TID on a HLW canister when the transportation cask has a TID?
 - Welding is not now one of the 5 TID methods (the NRC guide does not list welding).
 - The Navy will use a weld and has received approval from the NRC that a weld will satisfy the requirement and no TID would be necessary.
 - If you remove immobilized plutonium, then why is this an issue?
- Q: Does thermal loading analysis affect the need for SNF HLW?
- A: It should not drive things to be different.
- Issue: Paperless storage of data (compact disk).
 - During a recent NRC audit, it was indicated that records do not have to be stored on paper.

Report on SNF Steering Committee Meeting

Andrew Griffith Reporting

- 1. EM and RW interface
- 2. Integrated Repository Receipt Schedule
 - It is a critical planning tool.
 - Need to get a baseline agreement on the handoff of the transportation system from the NSNFP to RW.
 - What are the impacts to the transportation system without the MCO drop analysis information? (The MCO drop analysis is not funded for 2002.)

- 3. Schedule impacts to the sites from the 2010 repository opening date
- 4. SNF priority in technology development.
 - Are people involved?
 - Need to go through your management chain.
 - NSNFP will have a better opportunity in meeting technology development needs.
- Q: How often are you interfacing with senior management at the sites?
 - This is a battle we can not lose.
 - Need to reinforce the importance of getting our SNF into the repository.
 - We should be sharing lessons learned, which is hard to do with the decreases in travel funding.
- A: Not as much as we should be. We need to link the site activities, which are on the fringe of repository licensing as an argument for continued site involvement.

DOE SNF STEERING COMMITTEE ACTION ITEMS

#	Action Item	Designee	Due Date
1	Revisit the MCO problem and where that ranks in the FY-02 priorities.	EM/NSNFP	7/31/01
2	Send an e-mail request for information to EM-20, EM-40, and the site DOE field offices to establish an integrated budget strategy by FY-02.	Andy Griffith	7/06/01

Report on Contractor Breakout Session

Phil Wheatley Reporting

- Visibility of the NSNFP at DOE Headquarters and the DOE Field Offices
 - At the INEEL, BBWI President has been briefed, as well as Jerry Lyle from DOE-ID.
 - There was a mid-year review on November 30, 2000 with John Tseng and Dave Huizenga
 - NSNFP fact sheets have been developed.
 - Hanford has been briefed.
 - Dave Huizenga and Patty Bubar need to talk to the field offices so they understand the role of the sites in the NSNFP.
 - The contact at SRS is Greg Rudy.
 - They are going to have to start doing things now or costs will go up in the future.

- Cost Study on the treatment of DOE SNF prior to repository disposal
 - A small team should be organized to periodically review the waste package costs and other associated disposal costs.
 - SRS is moving forward on SNF treatment (Melt and Dilute) at a cost of \$150 million while the INEEL is focused on packaging the HEU.
 - Why is SRS treating HEU for \$150 million and INEEL is packaging?
 - The uncertainty of HEU packaging drove the SRS treatment option.

Safeguards and Security Issues

- The sites need to share their lessons learned.
- Transportation and coordination are the key.
- Do we need a breakout team or a small group to collect the lessons learned and work the issues?

WASRD/Compliance Plans

- The WASRD contains the requirements the site's need to meet to dispose SNF in the repository and the Compliance Plans show how the sites will meet those requirements.
- If we have a Compliance Plan for WASRD, Revision 3 (deterministic), how should we transition to WASRD, Revision 4 (risk based)?
- A new Compliance Plan should be generated with each significant revision to the WASRD.
- How do we document RW's approval of our licensing strategy?
 - White papers serve as the documentation.
 - A MOA serves to document the agreement.
 - AMRs also document strategy.
 - We need one document with one decision authority so we know we have acceptance from RW.
 - We need a way to get consensus from our customer. The QARD will provide one method of approval.
 - Note: There is an advantage to having RW approve your Compliance Plans.

NRC Meeting

- Have been trying for the last 9 months to schedule a meeting with the NRC; September is the next target date.
- Need to develop a control strategy prior to the meeting based on risk (probability and consequence).
- In previous NRC meetings with other groups, they have questioned the credibility of the repository waste package lasting for 10,000 years.
 - This could impact the objective of the engineered barrier in the drifts.
 - DOE may have more work to do to convince the NRC.

 The Nuclear Waste Technology Review Board is holding an International Peer Review meeting to discuss what short-term test data is needed to support long-term repository performance related to the waste package.

CONTRACTOR BREAKOUT MEETINGACTION ITEMS

#	Action Item	Designee	Due Date
1	Issue guidance to the sites 90-days after receipt of the next revision of the WASRD.	NSNFP	
2	Develop strategy for the pending NRC meeting.	NSNFP	

Breakout Session – EM Transportation System Requirements

Mark Arenaz

- What do the sites need from RW to get the SNF to the repository?
- RW will be the contracting officer for the transportation system to move DOE SNF from the sites to RW.
 - This does not include any intra-site SNF transfers.
- Will the transportation system become a procurement specification?
 - The sites and RW need to agree on the level of detail in the specification.
 - The Foster Wheeler contract is a good model for this as far as the detail they are requesting.
- What is RW's response to taking EM SNF?
 - There is an agreement between EM and RW.
 - RW is responsible for the transportation of the DOE SNF once it leaves each site's "gate."
 - With this new agreement, RW will also be responsible for the transportation cask.
- Q: Where is the funding for the transportation cask development?
- A: Defense Nuclear Waste Fund.
- Q: Why isn't DOE keeping the transportation system licensing? Have you considered keeping design and licensing with the NSNFP and turning the procurement over to RW?
- A: Originally, the vendor was going to do the licensing.
 - The vendor can license a cask faster than a DOE facility.
 - The license will be for the 9 groups of DOE SNF, not the 250 types of DOE SNF.

- RW procurement strategy.
 - One overall price/bid.
 - RW will need to be aware of any impacts to the site's operations for loading casks.
- The sites will provide the detail on the canisters going into the casks.
- A determination will need to be made on whether one type of cask will be used at all the sites.
 - It depends upon what we (sites) tell them (RW).
 - Flexibility issues.
 - Facility operations constraints.
- A specification has been developed for a transportation system that all the sites have planned and reviewed.
 - Do we provide this information to the vendor?
 - Will we be limiting what he could do?
- Timing is an issue on the transportation system.
 - Some sites are planning to build a new facility to package SNF and load the cask.
- RW is still relying on the DOE sites to provide specifications to the transportation system.
 - If RW uses a vendor, they are still responsible to meet the specifications we give them.
- We have spent a lot of time trying to determine worse case fuel for licensing.
- What is the requirement for the cask shielding?
 - Radiation level of 10 millirem on contact.
 - This is very conservative.
 - Shielding materials:
 - Lead pour disposal issues, however lead fills voids.
 - Depleted Uranium disposal issues.
 - Steel more modern shielding.

Overview of the Transportation Agreement with RW – Howard Eckert

- Concurrence has been received from Mark Frei and Lake Berrett to go forward with the new transportation agreement with RW.
- Concurrence has not been received from the INEEL. They have concerns since they were the key interface for the design and NRC certification for the transportation system.

- The amount of work RW does for the RFP is up in the air.
- EM has the flexibility and the risk of what goes into the RFP.
 - Minimize cost to the taxpayer.
 - We will do the best we can on the specification, but RW still has to pick up the fuel at our gate.
 - Need to be careful how specific we get in the RFP. There is a philosophy of design that says if we are too specific:
 - We may miss something, which could increase the costs associated with the fixed price contract with the vendor.
 - However, the contractor may not write an all-encompassing specification either.
 - We want to obtain the best product we can from the vendor at the best price.
- There are only two real requirements for the vendor.
 - The NRC must be able to license the cask.
 - Specified physical interfaces, such as cavity size, shielding, maximum weight, drop height, thermal requirements, and criticality control.
- We need to do a good job describing the contents of the cask for the vendor.
 - Include the 9 fuel groups.
 - Solicit input from the vendor.
 - We will not be shipping all nine-fuel groups in the first 5-10 years.
- The EM Integrated Repository Receipt Schedule will be a part of the Transportation System RFP.
- We are looking to award a contract sometime during 2003-2004.
 - This should coincide with licensing activities.
- We need a careful review of the DOE-EM Site Servicing Information and Waste Description Checklist (June 2001).
- Transportability of DOE SNF.
 - Need to develop a reasonable time.
 - Inputs from Hanford will help, although they probably will not be shipping to the repository in the first 5-year window.
- We should look at the fuel to be shipped to resolve issues both in the short-term (5-10 years) and in the long-term.
- Need to include HLW in transportation system conversations.

- Our transportation system needs to be designed to do everything it needs to do.
 - We don't want to do this again, so we need to design for all 9 fuel types.

TRANSPORTATION BREAKOUT ACTION ITEMS

#	Action Item	Designee	Due Date
1	Issue a formal request for a 90-day review of the Preliminary Draft DOE-EM Site Servicing Information and Waste Description Checklist, June 2001.	NSNFP	
2	Designate a SNF and HLW representative to participate on a Transportation Working Group.	Sites	
3	Review the cask licensing requirements.	NSNFP	
4	Organize a Transportation Working Group meeting the first part of FY-2002. • Site Representatives and the NSNFP.		

Draft input should be ready in 12-18 months.

YM SR and LA and Future NRC Meeting

Paul Harrington

- The Yucca Site Recommendation strategy is to build on TSPA Revision 0.
- Looking at several variables to control heat in the repository drift.
 - Spacing of the waste packages.
 - Location of the waste packages.
 - The degree of ventilation.
 - The loading of the waste packages.
- Q: Can we hang our hat on a 10,000 year container? We need more appreciation for what's inside.
- A: A series of meetings are being organized to look for more information about what to expect inside a waste package. They will be looking for data and consensus from world wide experts on ability to take short-term data and extrapolate long-term performance.

 Most of the FY-01 resources have gone to improving the technical basis to support Site Recommendation, which is critical now. Without the Site Recommendation, there will be no need for a License Application.

Action Item 2: Schedule a presentation at the next NSNFP Strategy Meeting to cover the Information Management System and how it all comes together. (NSNFP/Paul Harrington)

- Working to develop the Site Recommendation.
 - DOE-SNF will include the nine representative fuel groups, not all 250 SNF types
 - Will show how materials fall into these groups.
- From a regulatory perspective, it does not matter what goes into a waste package over 10,000 years.
 - But the public does not accept this as real.
 - As we look at degradation scenarios, we are not able to support the 10,000 year requirements.
 - So we need some pedigree, but we should have the engineering information to support it.
- Q: Is bounding information acceptable?
- A: We need to show reasonable information that boundaries are representative of what is in the waste package and to show there would be no impacts to the outside of the waste package.
 - Navy records package contains:
 - 1. Technical Information Package data unique to fuel assembly.
 - 2. Baseline Compliance Package broad scope "CofC type."
 - For DOE, package requirements have not been finalized.
- RW will assemble the grouping strategy.
- We need to complete the white paper on grouping, basis for grouping, data versus information, and approach to engineering barriers.
 - EM needs to provide information that supports grouping and to show that the waste form falls into a specific group based on current information.
 - Need to prove why we believe the SNF falls into one of the nine groups.
- Q: Why are we doing analysis on HLW degradation when RW is not taking credit for it?
- A: We may not be taking credit for the glass form, but at least it is in a stable form.

Action Item 3: Provide the Analysis Model Report on degradation of HLW glass to Dennis Koutsandreas (Paul Harrington).

Q: What does RW do with data packages?

- A: Support projections for the repository.
- Q: Is RW going to include the drip shield in the Site Recommendation?
- A: Yes.
- Q: Would RW go into License Application with the drip shield?
- A: Yes, but there is a long time from License Application to repository closure.

Safeguards & Security Strategy (No overheads)

Bill Hurt

- There are three facets of Safeguards & Security.
 - 1. Compliance with DOE Orders; measurements on lightly irradiated material.
 - 2. Planned shutdown of CAT I facilities currently storing SNF (PFP and Sandia).
 - 3. RW licensing requirements in 73 CFR 51.
- EM (NSNFP) has applied the RW policy guidelines to EM SNF using the four parameters identified in the RW policy guidelines:
 - Size/weight
 - Fissile material
 - Homogeneity
 - Separability.
- The EM approach was based on relative risk.
- Recently, RW headquarters expressed concern and said the EM approach was not defensible. RW proposed an approach for the S&S path forward, which involves analytical hierarchical modeling. This approach uses expert opinion and does not build on the EM methodology. RW proposed the following tasks:
 - 1. Perform separability workshop (EM lead) to formally document the information.
 - 2. Determine SNF attractiveness (RW lead/EM support).
 - Use Expert Choice software to do comparison with commercial fuel.
 - 3. S&S Trade Study (RW lead/EM support) to look at options for treatment of EM fuels for those determined to be attractive. Look at the security issues at Yucca Mountain.
- Other than melt/dilute, EM has no plans or capability to treat the SNF.
- EM and RW will be meeting during July to reach agreement on the path forward.

Review of NSNFP Work Supporting Licensing – TSPA

Jim Duguid

- Q: What is the best and worst interaction you would expect to see between glass and fuel?
- A: The TSPA model takes into account the pH, temperature, and carbonate parameters.
 - The TSPA model shows the drip shield failing around 100,000 years with waste package failure slowly after the drip shield failure.
- Q: If you remove the drip shield, what would the curve look like?
- A: It will flatten the curve out over the 10,000-year period.

Review of NSNFP Work Supporting Licensing - DBE

Dick Morrisette

See the NSNFP Home Page for this presentation at http://nsnfp.inel.gov/program/

Review of NSNFP Work Supporting Licensing – Criticality

Halim Alsaed

See the NSNFP Home Page for this presentation at http://nsnfp.inel.gov/program/

Action Item 4: Provide Jim Smyder and Ed Fujita a copy of the AMR for FFTF (7/20/01, Phase III) for review (Halim Alsaed).

- Q: Should the probabilities across the board be looked at in the TSPA?
- A: The July 23, 2001 Technical Exchange meeting may address these two main issues, which are hard to assign probabilities to.
 - Wide range of degradation rates.
 - Degradation order.

Nuclear Materials Focus Area/Technology Development

Phil Wheatley

- All of the needs from the sites were grouped into six product lines, which will feed into the Technical Development Needs.
- Identify current funding supplier and which sites benefit from the technology and the technology need/deployment dates.

NSNFP QA Changes

Bob Blyth

- Every open corrective action is being actively worked.
- We are continuing to write findings around procedures.
 - The sites need to put a "fence" around their existing OCRWM procedures.
 - Need to develop a compliance based culture.

Interface Control Document

David Rhodes

Action Item 5: Jim Linhart will work with Joe Price and David Rhodes on the distribution for the next ICD revision.

- The 24" canister will be in the next revision of the ICD before the License Application.
- The sites need to start thinking about how to send their commercial origin SNF.
 This information is needed for the ICD revision prior to the License Application.
 - Single use shipment.
 - Dual purpose canister
- PWR/BWR bundles will be bare element transfers.
- The FSV SNF in Colorado will be sent to the INEEL for packaging into a standard canister.
- The WASRD provides a list of SNF criteria for acceptance into the repository.
- The ICD includes the criteria on how to control the SNF after it arrives at the repository.
 - These are negotiated items such as canister size, lifting devices, etc.

 The ICD has the additional information needed to satisfy RW that the waste form will meet the requirements.

Integrated Repository Receipts Schedule

Corey Beebe

- The total DOE SNF estimate across the complex is approximately 3,100 canisters to be shipped to the proposed repository.
- It is estimated that the 2333 MTHM limit for DOE SNF will occur around 2035.
- The 8315 canister limit for HLW occurs around 2026.
 - It is assumed that the 70,000 MTHM limit will eventually be adjusted to accept all DOE SNF and HLW.
 - The repository is focusing on the 70,000 MTHM because it is currently the legal limit.
- West Valley is not included in the schedule until a signed contract is in place.
- An agreement will be made with RW regarding DOE SNF and HLW and Navy SNF shipping.

DOE SNF Standardized Canister and High Integrity Can (HIC)

Tom Hill

- Q: How are you testing the aging of the standard canister?
- A: Material samples between the beginning of life. However, aging needs to be defined.
- Q: Are you testing for early failures, such as weld failure prior to 10,000 years?
- A: Yes.
- Q: What is the reasoning for the material choice for the first HIC (C22 versus stainless steel)?
- A: We have some C22 material and an analysis on a package design, etc. It would add additional costs to reanalyze just to build the first HIC. We could redesign and build the HIC with stainless steel for other HICs.

Action Item 6: Provide a copy of the design package on the HIC to Jim Smyder (NSNFP/Tom Hill).

- Q: Is the C22 available in a 5" pipe?
- A: It can be ordered, but we had to go with a plate and roll it.
- Idea: What about designing a can that would fit some of the DOE fuel, equivalent to a commercial assembly (TRIGA, FPF, etc.), so we can optimize repository storage in case we run out of HLW glass logs?

INEEL Spent Nuclear Fuel Dry Storage Project (SNFDSP)

Barbara Beller

- This will be a NRC licensed facility; however, DOE still owns the SNF.
 - The NRC license application is scheduled for December 2001.
- There is double confinement with the DOE standard canister that is placed into carbon steel storage tubes, which are above grade inside the facility.
 - The design life on the canister is 100 years.
 - The contractor, Foster Wheeler, has added a shield plug to the top of the standard canister. (RW will need to know if and how this impacts the repository.)
- The acceptable fuels at this time include the Peach Bottom Unit I, Core 1 and Core 2, Peachbottom and TRIGA.
- Q: Why aren't all the INEEL SNF fuel types included in the contract?
- A: It was a fixed-price contract and we had to choose the fuel that would be NRC licensable and reasonable for this contract.
- The facility will be designed to handle the repository shipping cask.
 - It could handle a TMI storage package if necessary.
- There will be a drying facility in the remote welding area.